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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,300	12/28/2001	Hong Suk Yoo	8733.508.00-US	2980
30827	7590	05/12/2006	EXAMINER	
MCKENNA LONG & ALDRIDGE LLP			DUONG, THOI V	
1900 K STREET, NW			ART UNIT	
WASHINGTON, DC 20006			PAPER NUMBER	
			2871	

DATE MAILED: 05/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H.D

Office Action Summary

Application No.

10/028,300

Applicant(s)

YOO ET AL.

Examiner

Thoi V. Duong

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-7,9,11-14 and 17-31 ~~is/are~~ pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-7,9,11-14 and 17-31 ~~is/are~~ allowed.
- 6) ☒ Claim(s) 1 and 2 ~~is/are~~ rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the Amendment filed March 06, 2006.

Accordingly, claims 1 and 7 were amended, and claims 3, 4, 8, 10, 15 and 16 were cancelled. Currently, claims 1, 2, 5-7, 9, 11-14 and 17-31 are pending in this application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Kawahata (USPN 6,356,318 B1).

Re claim 1, as shown in Figs. 1 and 2, Kawahata discloses a liquid crystal display device including a data line 13 supplied with a data signal, a gate line 7, 7' supplied with a scanning signal, a pixel electrode 19 for driving a liquid crystal cell, and

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a thin film transistor 11 for applying the data signal to the pixel electrode in response to the scanning signal, the device comprising:

a gate insulating film comprising a superposed gate insulating film 8 and an insulating film 10 (col. 4, lines 45-47) entirely covering the gate line 7, 7' wherein the data line 13 is disposed on the gate insulating film 8, 10, and wherein the gate line 7, 7' is disposed directly on a substrate 1; and

a storage electrode 15 sunken in the gate insulating film 8 to overlap with the gate line 7', said storage electrode 15 uncovered by and disposed on said gate insulating film 10; and

a protective layer 16 on the gate insulating film 8, 10 to cover the data line 13, the gate line 7, 7' and the thin film transistor 11,

wherein a contact hole 9 passes through the protective layer 212 and a portion of the gate insulating film 8 having the storage electrode 15 sunken therein, the pixel electrode 19 is connected to the storage electrode 15 via the contact hole 9, and the gate insulating film 10 contacts both sides of the storage electrode 15 at the lower ends of the sides as shown in Fig. 1.

Re claim 2, Kawahata discloses that the thickness of the insulating film 10 is in the range of 500 to 1500 angstroms; therefore, the distance between the gate line 7' and the storage electrode 15 is also the thickness of the insulating film which is in the range of 500 to 1500 angstroms.

Response to Arguments

4. Applicant's arguments filed March 06, 2006 have been fully considered but they are not persuasive.

Re claim 1, Applicant argued that nothing in Kawahata teaches or suggests "a gate insulating film entirely covering the gate line wherein the data lines is disposed on the gate insulating film," and "a storage electrode sunken in the gate insulating film to overlap with the gate line, said storage electrode uncovered by and disposed upon said gate insulating film", wherein "the gate insulating film contacts sides of the storage electrode."

The Examiner disagrees with Applicant's remarks. As shown in Figs. 1 and 2, Kawahata discloses "a gate insulating film (8, 10) entirely covering the gate line 7, 7' wherein the data line 13 is disposed on the gate insulating film 10," and "a storage electrode 15 sunken in the gate insulating film 8 to overlap with the gate line 7', said storage electrode 15 uncovered by and disposed upon said gate insulating film 10", wherein "the gate insulating film 10 contacts sides of the storage electrode 15" at the lower ends of both sides of the storage electrode 15.

Thus, Kawahata does teach or suggest at least the feature of the claim invention recited in claim 1.

Allowable Subject Matter

5. Claims 5-7, 9, 11-14 and 17-31 are allowed.

The following is an examiner's statement of reasons for allowance: none of the prior art of record fairly suggests or shows all of the limitations as claimed. Specifically,

Re claims 5, 7 and 17, none of the prior art of record discloses, in combination with other limitations as claimed, a storage electrode formed on a first gate insulating film to overlap with the gate line disposed directly on the substrate, a second gate insulating film deposited on the first gate insulating film to cover the storage electrode, an active layer and an ohmic contact layer formed on the gate insulating films, a source electrode and a drain electrode on the ohmic contact layer, a protective layer on the gate insulating films to cover the source electrode and the drain electrode, and a pixel electrode connected to the drain electrode and the storage electrode on the protective layer.

The most relevant references, USPN 6,356,318 B1 to Kawahata and USPN 5,998,838 to Tanabe et al. (Tanabe), fail to disclose or suggest the claimed invention.

As shown in Fig. 1, Kawahata discloses a first gate insulating film 8 and a second gate insulating 10 deposited on the first gate insulating 8; however, the storage electrode 15 is formed on top of the second gate insulating layer 10. Meanwhile, as shown in Fig. 11 (c), Tanabe only discloses an active layer 1015 and an ohmic contact layer 1017 formed on a second gate insulating film 1014b to overlap with a gate electrode 1013a.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms, can be reached at (571) 272-1787.

Thoi Duong



05/11/2006



DUNG T. NGUYEN
PRIMARY EXAMINER